

U.S. PATENT APPLICATION NO. 09/805,493

1. The Maxwell flywheel consists of a hollow dished structure of separable sections. The subject invention is not embodied in separable sections and does not slide open and closed as part of it's typical operations.

2. In the Maxwell flywheel, at least one of these separable sections is affixed rigidly to the drive shaft. The second separable section is slidable along the drive shaft such that when it is brought into contact with the rigidly affixed section it forms a sealed structure capable of holding a fluid. The subject invention is not embodied in separable sections and does not slide open and closed as part of it's typical operations.

3. In the Maxwell flywheel, the entire described unit is enclosed within a reservoir holding the fluid, which is pumped into the flywheel through openings in the drive shaft. Introducing the fluid as required, or ejecting it via selective separation of the sections achieves the variable moment of inertia. This is accomplished by feedback controls and pumping mechanisms. The subject invention does not require such feedback controls or pumping mechanisms.

More particularly, the Maxwell hydraulic flywheel differs significantly from the subject invention in the following ways:

1. The subject invention moves from stasis to full rotation with a fixed quantity of fluid. Infinitely variable momentum in the subject invention is a function of the geometry of the flywheel and its speed of rotation. The subject invention is not dependent on pumping devices, liquid ejection, or fluid flow controls and feedback loops to vary the moment of inertia as required by the Maxwell Invention.

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2. The subject invention need not be enclosed in a reservoir like the Maxwell flywheel because the subject invention's fluid volume remains fixed.
3. The subject invention is self-stabilizing unlike the Maxwell flywheel.
4. unlike the Maxwell flywheel, the subject invention does not require separable sections for its function and therefore, does not need the fine controls necessary for selective ejection of hydraulic fluid.
5. Due to the above described conditions the subject invention is not size limited, whereas the Maxwell invention is. The Maxwell invention requires pumping and reservoir systems to operate which must increase disproportionally in size as the Maxwell hemispheres increase in size. This will require the Maxwell invention to be of a relatively large size to accommodate all of the reservoir and pump needs. Furthermore, as the Maxwell invention increases in size, there is a stability problem which occurs in pumping liquid into the semispheres. Instabilities are caused by the liquid hitting the sides of the semispheres as the liquid is pumped in.
6. The subject invention is also more efficient. As the Maxwell device increases speed, and bleeding is used to release some of the liquid inside the semispheres, the release of the fluid tends to cause instabilities in the liquid, further decreasing the Maxwell invention's efficiencies.
7. The subject invention is also more cost effective than the Maxwell invention. As the size of the Maxwell invention increases, larger and more expensive pumps are required to effectively move the volume of liquid required for operation. Therefore the large pumps required increase the cost of the invention.

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Based upon the above background, the applicant responds as follows to the specific claim rejections by the examiner:

Regarding claims 1-12, the Maxwell apparatus generates electricity by a substantially more complicated and structurally different system than the subject invention. The Maxwell invention flywheel (13) is composed of two parts (12) and (13), which parts separate and have liquid pumped in and out of them, whereas the subject invention does not separate and does not have liquid pumped in and out of it. Further, the shaft (111) of the Maxwell invention is hollow and has holes in it with pumping mechanisms, whereas the subject invention uses a solid shaft without holes or pumping mechanisms attached to it.

Regarding claim 2, the Maxwell invention flywheel (13) is composed of two parts (12) and (13), which parts separate and have liquid pumped in and out of them, whereas the subject invention does not separate and does not have liquid pumped in and out of it.

Regarding claim 3, again, the Maxwell invention flywheel (13) is composed of two parts (12) and (13), which parts separate and have liquid pumped in and out of them, whereas the subject invention does not separate and does not have liquid pumped in and out of it.

Regarding claim 4, on the Maxwell semispheric structure, the perforated radial vein clusters are attached to a completely different system in that the Maxwell flywheel (13) which is composed of two parts (12) and (13), has parts which separate and have liquid pumped in and out of them, whereas the subject invention does not separate and does not have liquid pumped in and out of it.

Regarding claim 5, on the Maxwell semispheric structure, the porous matrix is placed between internal vanes attached to a completely different system, in that the Maxwell flywheel (13) which is composed of two parts (12) and (13), has parts which separate and have liquid pumped in and out of them, whereas the subject invention does not separate and does not have liquid pumped in and out of it.

Regarding claim 6, the small round or viscous particles are used in a completely different system, in that the Maxwell flywheel (13) which is composed of two parts (12) and (13), has parts which separate and have liquid pumped in and out of them, whereas the subject invention does not separate and does not have liquid pumped in and out of it.

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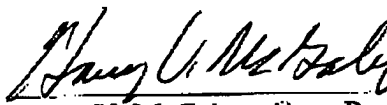
Regarding claim 7-12, the Maxwell invention is a much different, more complicated, larger, more cumbersome, less efficient, less stable and more expensive system because of the pumping systems and separating semispheres used in generating the power. The subject invention is less complicated, requires less space for the same size semisphere, is less cumbersome, more efficient, more stable and less expensive.

Conclusion

It is respectfully requested that the examiner, based upon the above, allow all of the claims of the subject invention.

Respectfully submitted,

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Marked-Up Version of ClaimIN THE CLAIMS:

4. The liquid phase flywheel according to claim 2 or [and] 3, wherein a perforated radial vein cluster is bonded to the inner surface of the semispheric structure.

6. The liquid phase flywheel as in [according to] claims 1, 2, 3 or 4 wherein small [round or] viscous particles are used in place of a fluid.